EFFECTIVENESS OF ACHIEVEMENT IN LEARNING MEDIA INSTALLATION OF COMPETENCE NASOGASTRIC TUBE (NGT)

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ABSTRACT

Introduction : Before learning skills lab, students are taught about the first concept through demonstration NGT installation procedure . With concept of competence expected of students were able to carry out the installation stages NGT properly while following the activities of the lab skills , but in fact the student mastery of the stages of installation NGT less , so the professor had to repeat the administration 's theory that the NGT installation skills lab time is getting longer and more heavy burden of lecturers to be done . The development of information technology and today is rapidly included in education that impact the ease of learning embodied in a computer learning media**. Method :** The research design is Quasy Experimental posttest control group design with the aim of analyzing the effectiveness of the media in achieving the learning computer competency NGT installation . **Result :** Data collection was carried out observations with the results of the average score of the experimental group (78.03) and the control group (76.76) with difference scores (1.27) . While Mann Whitney test results indicate that the use of instructional media in achieving computer competencies NGT installation is no more effective as evidenced by the value of $\alpha = 0.092$ (> 0.05). **Discussion :** The sophistication of a medium of learning is not a guarantee that the media are most effective so that the selection of instructional media appropriate to the needs , circumstances and conditions of each party involved in learning are indispensable.

Key words : Learning Media , Nasogastric Tube Procedur

INTRODUCTION

Competence can be defined as the ability of a person who can be observed which includes knowledge, skills and attitudes to complete a job or task to the standard performance that has been set (PPNI, 2005) (PPNI, 2005). Lab skills learning is a practice activities of nursing procedures in the laboratory after the students understand the stages that should be done at a certain nursing procedures. Student's ability to perform the installation of NGGT in every stages when joining lab skills was not in line with the expectations. Based on the results of the preliminary study on June 7, 2012, conducted by the researcher in the form of interviews with 15 students in the first level of Diploma 3 in Nursing Study Program 2011/2012 Lawang found 10 (66.6%) were not able to mention the equipment preparation in the installation NGT correctly and 8 students (53.3%) were not able to perform the installation procedure NGT in the order correctly. The inability of students in mentioning the equipment preparation needed in NGT's installation obstract the lab skill activities, and the lecturer must repeat the material that has been given so the learning lab skill will take longer.

To promote the understanding of students at some nursing procedures it is necessary to give the correct methodology and instructional media support. The use of computer media in the learning process can motivate students and improve their knowledge and skills. The availability of good media and appropriate learning is one solution

to the problem of learning so that students are able to understand the material given (Warsita, 2008).

The purpose of this study is to analyze the effectiveness of computer-based learning media in achieving competence NGT installation on the student in Diploma 3 Nursing Study Program Lawang in hopes to be useful for lecturers in presenting the material about the the installation of NGT and helping students in achieving competence the NGT installation and make the learning more varied.

RESEARCH METHOD

This study using the Quasi-Experimental posttest control group design (Arikunto, 2006). For the treatment group, the researchers used the computer learning media independently 2x60 minutes to deliver the learning. While the control group, the researchers used the media / tools with demonstrations method for 2x60 minutes to deliver the learning. This study conducted at the Diploma 3 Nursing Study Program Lawang in September-October 2013, and 70 people of the population is students of Diploma 3 Nursing Lawang level IA first semester academic year 2013/2014. The samples are 54 respondents drawn by using a sampling technique is purposive sampling with samples of the following criteria: is able to operate the computer and are willing to become respondents.

The variable in this study is the achieving competence NGT installation media. The learning media variable used is the using of computer as a learning media which contain the material of NGT installation procedure by students in independent learning for 2x60 minutes. While students' achieving competence NGT installation is measured by scoring in doing every step of the installation of NGT on the model anatomy.

Data collection begins with a computer-based learning media with NGT installation material and followed by making of research instruments. Researchers chose the respondents who are potential as sampled respondents. For respondents who are potential, they will be given an explanation about purposes, objectives and advantages and disadvantages of being respondents in the study. After that the respondents given the *informed consent* of research and the potential respondents are willing to sign a statement of the respondents. Researchers obtained 29 respondents from Level IA as the treatment group and 25 respondents from level IB as the control group. For each group performed the learning which treatment group was given the independent learning using computer-based learning media for 2x60 minutes and the control group was given the demonstration learning for 2x60 minutes. Both groups were given the opportunity once to do the stages of installation NGT independently on an anatomical model. On the next day related to the contract with the respondent, the researchers conducted the observations of competency achievement NGT installation in the treatment group and the control group.

Instruments in this study using a checklist. Checklist is an instrument of evaluation of learning through observation for the assessment (Suryadi, 2008). Checklist in this study contains of 20 items on stages of NGT installation skills. Assessment is done by giving a score on stages of NGT installation that was done by the students with the following score 0: Not done (steps or activities that should be done, when the observation or observation is not done), a score of 1: done but it's not perfect (step or the procedure has not been done properly, or not in order, or some steps are not done) and a score of 2: completely done (all the steps or procedures were performed properly and in order). The scoring is summed and divided with maximum score (60), multiplied by 100, so there is the maximum score of NGT installation skills 100. The scale of data used in this study is the interval.

Processing and data analysis obtained from the respondents then performed encoding, editing of data

when there is incomplete data and tabulating the data. To know the effectiveness of computer-based learning media to the students' competency achievement in NGT installation is done by analyzing the data using the "Mann Whitney" with a level significancy (α) 0.05 (Sugiyono, 2010). When the results is α <0.05 then hypothesis (H1) is accepted, it means that computer-based learning media is more effective to the students' competency achievement in NGT installation.

RESEARCH RESULT

Research Site

Diploma 3 of Nursing Study Program Lawang is one of Diploma 3 of Nursing Study Program which is owned by the Department of Nursing Malang. The students in Diploma 3 of Nursing Study Program Lawang Academic Year 2013/2014 were 230 students, and the students at the first level were 70 students. The NGT installation material is one of the materials in the subject of Basic Human Needs.

Characteristics of Respondents

Gender

Tabel 1 Respondents' Characteristic based on Gender

No	Gender	Frequency	Presentage
1	Male	15	28%
2	Female	39	72%
	Total	54	100%

Based on Table 1 shows that the majority of respondents were female (72%).

Competency Achievement of NGT Installation

Results of the analysis of the scores of the achievement of the competence in the experimental group and the control, the result is:

Tabel 2 Competency Achievement Installation NGT

	Post Treatment	
	Experiment	Control
Mean	78,03	76,76
Median	79	77
Standard Deviation	2,860	3,018
Minimum	71	71
Maximum	81	81

Table 2 shows that the average score of the competency achievement of NGT installation in the experimental group (78.03) and the control group (76.76) with range scores in both groups (1.27), in other words the use of computer-based media in a learning achievement of NGT installation gave a better score. The score differences of competency achievement of NGT installation experimental class and control class is small (1.27). However, to see if the differences are significant or not there will be a statistical test.

Normality Test

Normality test is conducted to know the competency achievement data of NGT installation have a normal distribution or not between the experimental class and control class. Normality test is using the Kolmogorov-Smirnov test statistic by the calculation of the normality test the experimental class derived class P = 0.000 and P = 0.005 obtained control. By comparing the value of α = 0.05, then obtained for the experimental class P = 0.000 <α (0:05) and to control class P = 0.005 <α (0.05). It can be concluded that both the data distributed is abnormal.

Homogeneity test

Homogeneity test was conducted to determine competency achievement data of NGT installation have variances homogeneous or not. The results of homogeneity test of competency achievement data of NGT installation between the experimental class and control class is P = 0.515. By comparing the value of α = 0.05, then P= 0.515> α (0,05), so it can be concluded that these data come from populations with the same variance (homogeneous).

The Differences of Competency Achievement Test 2 Class Sample (Hypothesis)

After being tested for normality and homogeneity tests competency achievement data in NGT installation known that the spread of the experimental and control class score distributed is not normal, so to see how effective the use of computer-based learning media in competency achievement in NGT installation can be identified by the use of the processing method Mann-Whitney Test with a significance level of 5%. The results show that the processing of significance (P) is 0.092. Because of the significance of P (0092)> α (0,05), H_0 accepted. It means that the use of computer-based learning media is not effective in achieving competence in NGT installation.

DISCUSSION

Based on the results of data processing shows that the average score of competency achievement in NGT installation in the experimental group (78.03) and the control group (76.76) is the average difference scores in both groups (1.27), in other words the use of computer-based learning media in competency achievement in NGT installation gives a better average score. But to see the effectiveness of the use of computer-based learning media in competency achievement in NGT installation differential test. Differential test performed using the Mann-Whitney Test with the significance level of 5%, which shows that the effectiveness of the use of media computer learning together with the the use of learning media by using media / aids in the demonstration in competency achievement in NGT installation shown with the significance value of P (0092) > α (0.05).

Each of learning media has advantages and disadvantages, so to deliver a different message; it's needed to give a different media. However, the level of effectiveness to deliver the message, the specific media is quite different especially considering the advantages and disadvantages that are owned by each instructional media. Based on the advantages owned by the computer media, there are advantages not owned by other media, for example, the ability to facilitate the students interactivity with learning resources (content) that exist on the computer (man and machine interactivity) (Warsita, 2008).

The use of computer-based learning media is unlimited such as on campus, dormitories, at home or somewhere else, and not limited by time where students can use it whenever needed. Although the use of computer-based learning media and demonstrations in this study was given only one time, but it has been able to show the better range of the average, even though it is only a small number (1.27). The demonstration learning in teaching in the Department of Nursing performed only one time by the lecturers constrained by the time planned in the academic year. By contrast, the use of computer-based learning media has a greater chance in doing learning repetitions independently by students, so it is help the students to master the material better than before the students join Lab Skill activities. When joining the lab skill activities, students must understood the NGT installation procedure expected there are no more professors repeating in delivering the installation procedures, students simply perform stabilization and train their motor skills. Computer-based learning media as a learning resource that can be seen and allowed the lecturers to interact with the students, it is very important in supporting skills. Many procedures skill are difficult to be understood if it is only written in the text but will be easier if indicated in audiovisual. Computer-based learning media skills should be learned before the implementation of the practice with the instructor / lab skills (Suryadi, 2008).

The success of using the media in the learning process to improve the learning outcomes is not enough to know

the advantages and disadvantages of a learning media, but it also to be noted to the contents of the message, how to explain the message, and the characteristics of the recipient of the message. In selecting the media, need to be adjusted to the needs, the situations and conditions of each. If the teaching materials are packed accurately and presented to the students it will get higher learning outcomes. It doesn't mean that the more sophisticated media used will be the higher of learning outcomes or otherwise (Wibowo, 2005).

This condition indicates that the computer-based learning media is media that is more sophisticated than a demonstration, but the effectiveness in competency achievement is not higher. In this study computer-based learning media used is still simple because the visual is not used 3-dimensional and does not use the more sophisticated programs so as learners have not been able to feel as if dealing directly with patients. It does not cover the possibility by using the sophistication in visualizing the NGT installation will provide a better learning outcomes but these conditions required the support of a bit of consequence.

CONCLUSION

The effectiveness of the use of computer-based learning media is not effective in competency achievement in NGT installation, so it is suggested to the lecturers that computer-based learning media is no guarantee that the media is the most effective. Suggestion for lecturers is to select the learning media peoperly that suit in their needs, situation and condition of each part in learning and with a mastery of making the media. And for the students advised to be more focus on the material during the learning so that the learning media of any kind used by lecturers will be easier to understand and master the material. All of them need the full support of the institutions in ensuring the availability of instructional media and simultaneously update the teacher's ability to use the media that is required in the learning process

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